



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,751	04/18/2001	Allan Green	45-00	8897

23713 7590 09/18/2002

GREENLEE WINNER AND SULLIVAN P C
5370 MANHATTAN CIRCLE
SUITE 201
BOULDER, CO 80303

EXAMINER

MCELWAIN, ELIZABETH F

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 09/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/837,751	GREEN ET AL.
	Examiner	Art Unit
	Elizabeth McElwain	1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04/18/01.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-61 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) _____ is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) 1-61 are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. _____.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

Claims 1-61 are pending.

Applicants are reminded that nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute **independent and distinct** inventions within the meaning of 5 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq.

Upon election of a Group below, Applicant is additionally required to select a single nucleotide sequence and corresponding amino acid sequence for said Group. This requirement 10 is not to be construed as a requirement for an election of species, since each nucleotide and amino acid sequence is not a member of single genus of invention, but constitutes an independent and patentably distinct invention.

Restriction to one of the following inventions is required under 35 U.S.C. § 121:

15 I. Claims 1-3, 8, 10-16, and 18-23 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a coding sequence of a fatty acid delta-9 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

II. Claims 1-3, 8-16 and 18-23 to the extent that the claims are drawn to a method 20 of modifying the endogenous oil of cotton comprising transforming a plant with a the

complement or antisense of a delta-9 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

III. Claims 1, 2, 4, 8, 10-15 and 17-23 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with inverted repeats of a delta-9 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

IV. Claims 1-3, 8, 10-16 and 18-23 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a coding sequence of a delta-12 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

V. Claims 1-3, 8-16, and 18-23 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant a the complement or antisense of a delta-12 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

VI. Claims 1, 2, 4, 8, 10-15 and 17-23 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with inverted repeats of a delta-12 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

VII. Claims 5, 6, 24, 25 and 27-35 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with fatty acid biosynthesis gene, and the plants transformed therewith, classified in Class 800, subclass

281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must also be elected)

VIII. Claims 5, 6, 24, 25 and 27-35 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a complement or antisense sequence of a fatty acid biosynthesis gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must also be elected)

IX. Claims 5, 7, 24 and 26-35 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with inverted repeats of a fatty acid biosynthesis gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must also be elected)

X. Claim 36 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a coding sequence of a fatty acid delta-9 desaturase gene and with a coding sequence of a fatty acid delta-12 desaturase gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example.

XI. Claim 37 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a fatty acid biosynthesis gene and a second gene, and the plants transformed therewith, classified in Class 800, subclass 281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must also be elected)

XII. Claims 38-45 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with fatty acid delta-9 desaturase gene, transforming a second plant with a fatty acid delta-12 desaturase gene, and crossing the two plants to produce progeny plants, classified in Class 800, subclass 264, for example.

5 XIII. Claims 46-48 drawn to a cotton plant with modified fatty acid composition, classified in Class 800, subclass 314, for example.

XIV. Claims 49-52 drawn to cottonseed oil, classified in Class 426, subclass 601, for example.

10 XV. Claims 53, 54 and 56 to the extent that the claims are drawn to a gene construct comprising SEQ ID NO: 1 or a sequence encoding SEQ ID NO:, classified in Class 536, subclass 23.1, for example.

XVI. Claims 53, 54 and 56 to the extent that the claims are drawn to a gene construct comprising SEQ ID NO: 3 , classified in Class 536, subclass 23.1, for example.

15 XVII. Claims 53 and 56 to the extent that the claims are drawn to a gene construct comprising SEQ ID NO: 7, classified in Class 536, subclass 23.1, for example.

XVIII. Claims 53 and 56 to the extent that the claims are drawn to a gene construct comprising SEQ ID NO: 4, classified in Class 536, subclass 23.1, for example.

20 XIX. Claims 53, 54 and 56 to the extent that the claims are drawn to a gene construct comprising the complement of SEQ ID NO: 1 or a sequence encoding SEQ ID NO: 2, classified in Class 536, subclass 23.1, for example.

XX. Claims 53, 54 and 56 to the extent that the claims are drawn to a gene construct comprising the complement to SEQ ID NO: 3, classified in Class 536, subclass 23.1, for example.

XXI. Claims 53 and 56 to the extent that the claims are drawn to a gene construct comprising the complement to SEQ ID NO: 7, classified in Class 536, subclass 23.1, for example.

XXII. Claims 53 and 56 to the extent that the claims are drawn to a gene construct comprising the complement to SEQ ID NO: 4, classified in Class 526, subclass 23.1, for example.

XXIII. Claims 53, 55 and 56 to the extent that the claims are drawn to a gene construct comprising inverted repeats, classified in Class 536, subclass 23.1, for example.

XXIV. Claim 57 drawn to to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a coding sequence of a fatty acid delta-9 desaturase gene, wherein inverted repeats are interrupted by an intervening sequence, classified in Class 800, subclass 281, for example.

XXV. Claim 57 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a coding sequence of a fatty acid delta-12 desaturase gene, wherein inverted repeats are interrupted by an intervening sequence, classified in Class 800, subclass 281, for example.

XXV. Claim 58 to the extent that the claims are drawn to a method of modifying the endogenous oil of cotton comprising transforming a plant with a fatty acid biosynthesis gene,

wherein inverted repeats are interrupted by an intervening sequence, classified in Class 800, subclass 281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must also be elected)

XXVI. Claim 59 to the extent that the claims are drawn to a method of modifying the
5 endogenous oil of cotton comprising transforming a plant with SEQ ID NO: 1, wherein
inverted repeats are interrupted by an intervening sequence, classified in Class 800, subclass
281, for example.

XXVII. Claim 60 to the extent that the claims are drawn to a method of modifying the
endogenous oil of cotton comprising transforming a plant with a fatty acid biosynthesis gene,
10 wherein inverted repeats are interrupted by an intervening sequence, classified in Class 800,
subclass 281, for example. (If this group is elected then one of SEQ ID NO: 3, 4 or 7 must
also be elected)

XXVIII. Claim 61 to the extent that the claims are drawn to a method of modifying the
endogenous oil of cotton comprising transforming a plant with a fatty acid biosynthesis gene,
15 wherein inverted repeats are interrupted by an intervening sequence, classified in Class 800,
subclass 281, for example. (If this group is elected then one of SEQ ID NO: 1, 2, 3, 4 or 7
must also be elected)

The inventions are distinct, each from the other because of the following reasons:

20 The inventions of Groups I-XXVIII are patentably distinct wherein one is not required
by each of the others. The methods and plants of each of Groups I-XII and XXIV-XXVIII

would not be required by the methods and plants of any of these other Groups. The plants of each of Groups I-XII and XXIV-XXVIII are wholly different products, wherein each comprise different genes transformed therein, and the methods of each of Groups I-XII and XXIV-XXVIII require different steps, given the different DNA sequences required for each. In 5 addition, each of the gene constructs of Groups XV-XXIII can be used in different methods than any one method claimed in Groups I-XII and XXIV-XXVIII, as evidenced by the numerous different methods claimed, and each are distinct one from each of the others in that they are structurally and functionally distinct chemical compounds. In addition, the cottonseed oil having specific fatty acid composition can be made by an alternative method than any of the 10 methods of Groups I-XII and XXIV-XXVIII, such as by postextraction modification, and does not require the cotton plants of Group XIII for the same reason. Furthermore, the cotton plants of Group XIII do not require the methods of Groups I-XII and XXIV-XXVIII or the gene constructs of Groups XV-XXIII or the oil of Group XIV and is distinct genetically and 15 physiologically and requires additional components and method steps to produce. Therefore, the inventions of Groups I-XXVIII are capable of being separately made, independently used and the patentability one would not render either of the other obvious or unpatentable.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown for their different classification and the requirement for additional areas of search restriction for examination purposes as indicated is proper.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed.

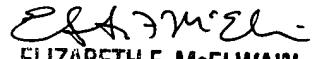
Applicant is reminded that upon the cancellation of claims to a non-elected invention,
5 the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(h).

10 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (703) 308-1794. The examiner can normally be reached on Monday through Friday from 8:00 AM to 4:30 PM.

15 If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson, can be reached at (703) 306-3218. The fax phone number for this Group is (703) 308-4242. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989).

20 Any inquiry of a general nature or relating to the status of this application should be directed to the legal analyst, Gwendolyn Payne, whose telephone number is (703) 305-2475, or to the Group receptionist whose telephone number is (703) 308-0196.

25 Elizabeth F. McElwain, Ph.D.
September 11, 2002


ELIZABETH F. McELWAIN
PRIMARY EXAMINER
GROUP 1600